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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/776,036	
	Filing Date	February 2, 2001	
	First Named Inventor	Dennis J. Malfer et al.	
	Group Art Unit	1714; conf. no.: 8721	
	Examiner Name	Cephia D. Toomer	
Total Number of Pages in This Submission	6	Attorney Docket Number	EP-7503

ENCLOSURES (check all that apply)		
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Dennis H. Rainear (Reg. No. 32,486)
Signature	
Date	May 7, 2003

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Malfer et al. **Examiner:** Toomer, Cephia D.
Date Filed: 02/02/2001 **Art Unit:** 1714
Application No.: 09/776,036 **Conf. No.:** 8721

Title: Secondary Amine Mannich Detergents

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Office Action Response

Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
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Dear Sir:

In response to the Examiner's letter mailed on April 10, 2003, Applicants respectfully request reconsideration of the Examiner's new grounds of rejection. The information and arguments presented herein overcome the Examiner's rejections under 35 USC § 102(b) and 35 USC § 103(a), and demonstrate that the present application is presently in condition for allowance.

Claims 1-9, 13-31, 35-53, 57-59 and 63-65 remain pending in the application.

REMARKS:

Rejections under 35 USC § 102(b)

The Examiner rejected claims 1-9, 13, 59 and 63 under 35 USC § 102(b) as anticipated by EP 0 182,940 (hereinafter, the '940 patent). The Examiner argues that this reference teaches

the limitations of the claims of the present application. Applicants respectfully disagree, as at least two distinctions are identified between the present claims and the reference.

First, the present application is directed toward a Mannich reaction product that is based on the selection of dibutylamine as the amine constituent, specifically requiring a secondary amine of the formula $\text{H-N}(\text{R})_2$ where R is a butyl group. The '940 patent calls for Mannich reaction "amines and mixtures thereof" (p. 4, line 29) that preferably contain a primary amino group, which is distinguishable from the present invention's use of secondary amines. The '940 patent also describes preferred "saturated and unsaturated aliphatic *primary* monoamines containing 6 to 18 carbon atoms," which would not include a secondary amine such as dibutylamine. In addition, the '940 specifies in its text and requires in its claims a Mannich derived from hydrocarbyl amine of the general formula: $\text{NHX}(\text{R}^4\text{NH})_n\text{R}^2$, which upon closer examination has *two* amino groups, is thereby a diamine (*see*, Claims 9, 10, 21 and 22 of the '940 patent), and could not be dibutylamine.

The Examiner notes that dibutylamine is disclosed in the '940 patent, but it is discussed following a recitation of elements that are incorporated into a larger diamine formula that is later presented in the claims as the amine constituent. Therefore, the diamines described and claimed in the '940 patent do not disclose the dibutylamine constituent used in the Mannich reaction in the present invention. In the '940 patent, claims 10 and 22 depend from Claims 9 and 21, which are inherently all diamines—as "n" is an integer between 1 and 10. The most likely use of dibutylamine in the '940 patent would be as the R^4 constituent in the diamine formula, yielding a completely different amine constituent than that claimed in the present invention. Furthermore, the examples in the '940 patent utilize cocoamine, tetraethylene pentamine and triethylene tetraamine. None of these is dibutylamine, nor are they even secondary dialkyl amines.

Secondly, the present application demands that the phenolic constituent in the Mannich reaction is di-substituted, and further requires that the two substituents be (1) a low molecular-weight (C_{1-4}) alkyl group; and (2) an aliphatic hydrocarbyl polyolefin-derived substituent having an average molecular weight from about 500-3000. The '940 patent discloses and claims alkyl-substituted phenols for use in the Mannich reaction that are "medium molecular weight," having from about 16 to 40 carbon atoms. In addition to this complete lack of overlap in the alkyl substituents in the phenolic component, the '940 patent does not disclose the present

application's specificity in the configuration of the hydroxyaromatic constituent, which requires steric blocking of two positions on the hydroxyaromatic compound and provides a highly specific and novel compound.

It is respectfully submitted that the differences in the amine and phenolic constituents distinguish the present invention from the '940 patent. As the '940 patent does not teach all of the limitations of the claims of the present invention, it would not serve to anticipate the claims.

Rejections Under 35 USC §103(a)

It is respectfully submitted that the '940 patent neither teaches nor suggests the advantages offered by the present invention, alone or in combination with previously cited references. Instead the '940 patent discloses diamine constituents and readily distinguishable alkyl-substituted phenolic constituents than those utilized in the present invention.

The success of the present invention in relying on dibutylamine in the Mannich reaction could not be deduced from the '940 patent, and an investigator skilled in the art would not have been led to select dibutylamine from its disclosure, which clearly and critically relies on diamines. Furthermore, the distinctions between the number of carbons and structure of the alkyl-substituted phenolic constituents in the Mannich reaction are also not taught in or suggested by the '940 patent. It is respectfully submitted that the '940 patent did not disclose a Mannich product analogous to that of the present invention, therefore, it would not have been obvious to combine its product with a carrier fluid taught in Malfer '612 (US 5,725,612). Even if one skilled in the art combined the references as proposed, that combination would lead the practitioner away from the claimed use of dibutylamine and toward diamines.

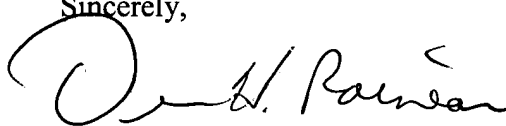
In summary, while the references disclose elements of the Mannich reaction, they do not disclose the specific amine and hydroxyaromatic constituents disclosed in the present invention. The reference cited by the Examiner does not rely on the selected constituents of the present invention. It would not have been obvious to one skilled in the art to undertake the Mannich reaction using dibutylamine because it was selected from the broad class of amines, and not specified by the reference. It would not have been obvious to select lower molecular-weight alkyl substituents and preferentially block positions on the hydroxyaromatic ring, thereby leading to novel and specific compounds.

It is respectfully requested that the Examiner withdraw the objections under 35 USC §§102(b) and 103(a). It is respectfully requested that the Examiner find the application in condition for subsequent allowance.

As this response is timely filed, it is believed that no fee is due. However, in the event the undersigned is mistaken in his calculations, the Commissioner is authorized to debit the appropriate fee, or any other required fee, from the deposit account of the undersigned, No. 05-1372.

Thank you for your attention to this matter, and please contact me at your convenience if you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Dennis H. Rainear", with a large, stylized initial "D".

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Date: May 7, 2003